

REMARKS

The specification has been amended to correct errors of a typographical and grammatical nature. Due to the number of corrections thereto, applicants submit herewith a Substitute Specification, along with a marked-up copy of the original specification for the Examiner's convenience. The substitute specification includes the changes as shown in the marked-up copy and includes no new matter. Therefore, entry of the Substitute Specification is respectfully requested.

The abstract has also been amended to more clearly describe the features of the present invention.

of the present invention.

Also submitted herewith is a proposed amendment to the drawings, wherein Figs. 2, 7, 8 and 9 have been amended at this time. Upon receipt of the approval of the amendment to the drawings and receipt of a Notice of Allowance, the proposed drawing corrections will be effected in accordance with present practice.

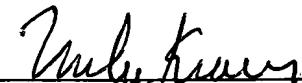
Entry of the preliminary amendments and examination of the application is respectfully requested.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (Case: 503.39420X00)

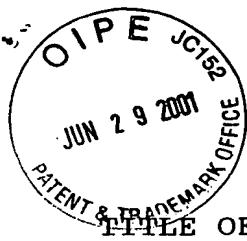
and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP


Melvin Kraus
Melvin Kraus
Registration No. 22,466

DRA/MK/jla
(703) 312-6600



RECEIVED

JUL 05 2001

Technology Center 2100

TITLE OF THE INVENTION

INFORMATION PROCESSOR HAVING ELECTRONIC MAIL FUNCTION
AND RECORDING MEDIUM STORING ELECTRONIC MAIL PROCESSING
PROGRAM

5

BACKGROUND OF THE INVENTION

The present invention relates to an information processor having an electronic mail function and a recording medium storing an electronic mail processing program.

10

[the sending]
[Sending] and receiving of a file or the like between a plurality of information processors is performed [in a form] by [of] attaching [a] file to [a] text of electronic mail using an electronic mail system connected to a public communication line or a network.

15

[with this type of communication in message greatly when]
However, there are problems that, since [a] size of an electronic mail is increased [by attaching] a large sized file, such as image data [to the text of mail], the remaining capacity of [a] mail server is largely decreased, which greatly hinders the receipt of additional mail. [causes incapability of receiving the following] electronic mail. [and that] since a large volume of data is carried on [a] communication line, the performance of the communication line, particularly [the] analogue communication line, is degraded.

25

In order to solve these problems, some mail servers executes measures that a limit (an upper limit) is set in to the size of sent or received electronic mail, [and] such that

electronic mail having a size exceeding this limit is not handled, or [that] electronic mail having a size exceeding a preset size is not immediately sent, but is sent ^{at} a time [zone] when the communication line is not busy.

5 However, in the case of [the] mail server, which places a limitation [to mail size], since a large-sized file can not be attached to electronic mail, it is necessary to send and receive the file using another means. Therefore, there is a limitation [in] effective use of the electronic mail.

10 On the other hand, in the case of [the] mail server, sending and receiving electronic mail by controlling the transmission time [zone], since it is impossible to send and receive electronic mail without delay, a file can not be sent or received at an undesirable time. Therefore, working efficiency, 15 using the file is degraded.

A user can send electronic mail by dividing a file to be sent into small-sized files and attaching each of the divided files to a [piece of the] electronic mail. However, since the work to divide the file to be sent and the work to send the file by attaching each of the divided files to each of the plural [pieces of the same] electronic mail, are necessary, the sending work by the user becomes complicated. Further, since the receiver is required to reconstitute the plural divided files attached to the plural [pieces of the same] electronic mail to the single original file, the receiving work becomes complicated.

SUMMARY OF THE INVENTION

An object of the present invention is to provide an information processor having an electronic mail function which can easily attach a large-sized file to [a piece of] 5 electronic mail, and send or receive it, and to provide a recording medium storing an electronic mail processing program for the information processor.

The present invention is characterized by an information processor having an electronic mail function, 10 which comprises a mail size upper limit value storing means for storing at least one upper limit value of a sending destination mail size; a mail size comparing means for comparing the upper limit value stored in the mail size upper limit value storing means with [a] size of a [mail] main 15 part of [sent] mail; a [sent] mail dividing means for dividing the [sent] mail into a plurality of sub-mail sections when the size of the [sent] mail exceeds the mail size upper limit value; and a mail sending means for sequentially sending sets of information individually including the divided sub-mail sections. 20

Further, the present invention is characterized by an information processor having an electronic mail function, which further comprises a destination-based information registration database, data [being] registered [in] 25 [the destination-based information registration database], the data being destination-based information including whether or not a mail address, a mail upper limit value and

a divided mail reconstituting program for reconstituting [the] ^aplurality of divided sub-mail sections to ^{form} the original mail exist [in] each destination.

Further, the present invention is characterized by
5 [the] ^{an} information processor having an electronic mail function, which further comprises means for setting data [to] ^{into} the destination-based information registration database, the data being information [on], judging whether or not there is necessity ^{for} attaching, ^{to be used in} [the] reconstituting program, ^{to divided mail to be sent}.

10 Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, which further comprises a mail dividing information adding means for adding mail dividing information ^{which is} necessary for reconstituting [the] ^aplurality of 15 divided sub-mail sections to ^{obtain} the original mail form, to each of the sets of information.

Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, wherein the mail dividing information attached to 20 each of the sub-mail sections includes an identification code for identifying the original mail, sub-numbers for identifying the expressing ^{total} order of the sub-mail sections, a ^{dividing} number of [the] mail, and [a] capacity of each of the sub-mail sections.

25 Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, wherein the reconstituting program is a program

for reconstituting the original mail based on all the received sub-mail sections and the mail dividing information attached to each of the sub-mail sections.

Further, the present invention is characterized by
5 [the] ^{an} information processor having an electronic mail function, which further comprises a means for automatically attaching [the dividing] ^{a divided} mail reconstituting program to sent mail when it is judged that [a] destination does not have [the] ^{the mail} divided mail reconstituting program.

10 Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, wherein the mail size upper limit value storing means comprises a mail size upper limit value storing part; and a mail size upper limit value input means for inputting 15 a mail size upper limit value for each destination, the mail size upper limit value being stored in the mail size upper limit value storing part.

Further, the present invention is characterized by
20 [the] ^{an} information processor having an electronic mail function, wherein the mail size upper limit value storing means further comprises a mail size upper limit value switching means for switching a mail size upper limit value used by the mail size comparing means corresponding to ^{mail} a destination.

25 Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, which further comprises means for setting a

subject name for each of the divided sub-mail sections, the subject name being (a) name of (an) original mail, added [with] data corresponding to, number of divided sections and [dividing] order of the sub-mail sections.

5 Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, wherein it is displayed on a display unit of the information processor that [sent] mail is [divisionally] being sent.

10 Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, wherein the [dividing] number, ^{of divided mail sections} is set so as to be minimized.

15 Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, wherein the [dividing] number, ^{of divided sections} is set so as to equalize capacities of the divided sub-mail sections.

Furthermore, the present invention is characterized by an information processor having an electronic mail function, which comprises a mail dividing judging means for judging whether or not mail dividing information is ^{appended to} [added] [in] received mail data; a divided-mail receiving judging means for judging ^{by} referring to the mail dividing information, whether or not all of ^{the} divided [sending] sub-mail sections ^{of a divided mail message have been} [can be] received; and a mail reconstituting means for reconstituting the received sections of [divided sending] sub-mail data to a form of a single original item of

[sending] mail data.

Further, the present invention is characterized by [the] ^{an} information processor having an electronic mail function, wherein it is displayed on a display unit of the information processor that [received] mail is [divisionally] being ^{received} [sent].

Furthermore, the present invention is characterized by a method of sending and receiving electronic mail, the method comprising the steps of accepting a request [of] for sending mail; acquiring a mail size upper limit value of a destination based on an address of the destination; comparing [a] size of the mail to be sent with the mail size upper limit value of the destination; dividing the mail to be sent into sub-mail sections according to an appropriate dividing method and [sending the sub-mail sections by] attaching dividing information to each of the sub-mail sections, when the size of the mail to be sent is larger than the mail size upper limit value of the destination; attaching a reconstituting program [of divided mail] to the divided sections of [sent] mail (when [the] reconstituting program is not provided at ^a mail ^{sending the divided mail sections} [to] the destination; and) directly sending the mail to be sent when the size of the mail to be sent is smaller than the mail size upper limit value of the destination;

Further, the present invention is characterized by the method of sending and receiving electronic mail, wherein, when the mail to be sent is divisionally sent, it is displayed on a display unit that the mail is

divisionally sent.

Furthermore, the present invention is characterized by a method of sending and receiving electronic mail, the method comprising the steps of judging whether or not received mail is divisionally sent; after receiving all divided sub-mail sections, reconstituting the received sub-mail sections to [a] mail before divided using a reconstituting program and dividing information attached to each of the divided mail sections when the received mail is divisionally sent; and executing normal receiving processing when the received mail is not divisionally sent.

Further, the present invention is characterized by ^a method of sending and receiving electronic mail, wherein, when the received mail is divisionally sent, it is displayed on a display unit that the mail is divisionally sent.

Furthermore, the present invention is characterized by a recording medium storing an electronic mail processing program for realizing an electronic mail function by loading the electronic mail processing program into an information processor, wherein the electronic mail processing program includes a program for executing processing for comparing an upper limit value of sent mail size with a size of mail to be sent; and processing for sending the mail by automatically dividing mail data to be sent into a plurality of sub-mail sections when the size of the mail to be sent exceeds the upper limit value of sent mail size.

Further, the present invention is characterized by
[the] recording medium storing an electronic mail processing
program, which further includes a program for executing
mail dividing information adding processing for adding
5 information [into] sent mail data, the information being
necessary for reconstituting divided items of divisional
sub-mail data to a single original item of mail data.

Further, the present invention is characterized by
[the] recording medium storing an electronic mail processing
10 program, which further includes a program for executing
processing for attaching a reconstituting program for
reconstituting divided items of divisional sub-mail data to
a single original item of mail data; and, processing for
setting (to) a destination database, whether or not attaching
15 of the reconstituting program is necessary.

Further, the present invention is characterized by
[the] recording medium storing an electronic mail processing
program, which further includes a program for executing
mail size upper limit value setting processing for setting an
20 upper limit value of sent mail size; and, mail size upper
limit value storing processing for storing the upper limit
value of sent mail size set in the mail size upper limit
value setting processing in a destination database, an
information processor.

25 Further, the present invention is characterized by
the recording medium storing an electronic mail processing
program, which further includes a program for executing

processing for switching the upper limit value of mail size
^a
 with reference
 (referring) to the destination database corresponding to a
 destination.

Further, the present invention is characterized by
 5 [the] recording medium storing an electronic mail processing program, which further includes a program ^{for} executing processing for automatically changing a subject name of each of the items of divided mail data to [each subject name] ^{include an identification of the}
 10 [corresponding to] number of divided sections and [dividing] ^{the}
 order of each of the items of divided mail data.

Furthermore, the present invention is characterized by a recording medium storing an electronic mail processing program for realizing an electronic mail function by loading the electronic mail processing program into an information processor, wherein the electronic mail processing program includes a program ^{for} executing a mail dividing information judging processing for judging whether or not mail dividing information is attached to received mail data; divided mail receiving judging processing for judging, based on the mail dividing information, whether or not all necessary items of divided sent sub-mail data have been received; and mail reconstituting processing for reconstituting the received plurality of items of divided [sent] sub-mail data to ^{obtain} a single original item of [sending]
 25 mail data.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a block diagram showing an embodiment of an information processor having an electronic mail function in accordance with the present invention.

5 FIG. 2 is a ^{functional} block diagram showing [a functional] means realized by executing an electronic mail processing program for sending electronic mail using a CPU in [the] ^{an} information processor having [the] ^{an} electric mail function in accordance with the present invention.

10 FIG. 3 is a ^{diagram} [view] showing the structure of a database [stored] in an auxiliary memory unit in [the] ^{an} information processor having [the] ^{an} electronic mail function in accordance with the present invention.

15 FIG. 4 is a ^{diagram} [view] showing the ^{configuration} [structure] of electronic mail data.

FIG. 5 is a ^{diagram} [schematic view] showing an electronic mail data dividing method executed by a sending mail dividing means in the information processor having [the] ^{an} electronic mail function in accordance with the present invention.

20 FIG. 6 is a ^{diagram} [view] showing the structure of a mail dividing information file in the information processor having [the] ^{an} electronic mail function in accordance with the present invention.

25 FIG. 7 is a flowchart showing electronic mail sending processing executed by [a preferable] ^{an} electronic mail processing program in order to realize the information processor having [the] ^{an} electronic mail function in accordance

with the present invention.

FIG. 8 is a block diagram showing [a functional] means realized by executing an electronic mail processing program for performing receiving processing of electronic mail in 5 the information processor having [the] ^{an} electric mail function in accordance with the present invention.

FIG. 9 is a flowchart showing electronic mail receiving processing executed by [a preferable] ^{an} electronic mail processing program in order to realize the information 10 processor having [the] ^{an} electronic mail function in accordance with the present invention.

FIG. 10 is a [view] ^{Diagram} showing the inner structure of a divided mail storing unit in the information processor having [the] ^{an} electronic mail function in accordance with the 15 present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

An embodiment of the present invention will be described ^{with reference} [below, referring] to the [accompanying] drawings.

FIG. 1 is a block diagram showing an embodiment of an information processor having an electronic mail function in accordance with the present invention. Referring to FIG. 1, the reference character 1 [is] ^{identifies} a CPU (central processing unit) for [realizing] ^{performing} various kinds of [functional means] ^{functions} to be described later by executing a program and for controlling various kinds of units. The reference character 2 [is] ^{identifies} a ROM (read-only memory) for storing the above-mentioned program.

The reference character 3 [is] identifies a RAM (random access memory) for storing data used when an application program and the above-mentioned program are executed. The reference character 4 [is] identifies a display unit for displaying a result of executing the programs or a mail message [letter]. The reference character 5 [is] identifies a communication unit for sending and receiving mail data through a communication network. The reference character 6 [is] identifies an input/output unit for inputting a mail message [letter] and for inputting information to control the various kinds of units. The reference character 7 [is] identifies an auxiliary memory unit, such as a hard disk unit, for storing [and memorizing] the programs, electronic mail data to be sent or received and [the] other necessary information, generated in the information processor. An electronic mail processing program is pre-stored into the ROM, or is read from a recording medium, such as a compact disk or a floppy disk, and then stored in the auxiliary memory unit 7.

FIG. 2 is a block diagram showing [a functional] means realized by executing an electronic mail processing program for sending electronic mail using the CPU 1 in the information processor having [the] electric mail function in accordance with the present invention, which provides various functions and shows the [functional means] from inputting of a mail sending request through the input unit 6 to sending of [the] mail. When [a], the size of electronic mail to be sent is smaller than [a mail size] upper limit value, the electronic mail is sent in the same manner as in [similarly to] a conventional processor without any

special discussion of such a particular processing. Therefore, the illustration relating to this case is omitted.

As a request [of] sending mail is input from the input unit 6, a mail size comparing means 8 acquires a mail size upper limit value corresponding to [a) destination] from a mail size upper limit value storing part 10, using a mail size upper limit value switching means 9, and compares [a) the size of the [sending] mail, with the mail size upper limit value. The mail size upper limit value is pre-stored in the mail size upper limit value storing part 10 by a mail size upper limit value input means [for storing mail size upper limit value inputs] in accordance with the mail size upper limit value storing part of the destination database [in the information processor].

When the [sent] mail [size] exceeds the mail size upper limit value, the [sent] mail data is divided into a plurality of divided [sent] mail items (sub-mail sections), each having a size smaller than the mail size upper limit value, by a [sending] mail dividing means 11. At that time, [processing] of storing mail dividing information, which is necessary for reconstituting the plurality of divided [sent] mail data items to a form of a single original item of sent mail [data], is also performed.

Next, a mail dividing information adding means 13 performs a processing [of] adding mail dividing information stored in the mail dividing information storing means 12 to each of the divided [sent] mail sections, which [are] divided by

the [sent] mail dividing means 11.

Then, a mail sending means 14 sends each of the divided [sent] mail data items to which the mail dividing information is added.

5 Here, each of the means shown in FIG. 2 will be described ^{more} in detail.

As shown in FIG. 3, personal information data, such as electronic ^{territorial} address, name, address and so on is gathered in a card-form to be stored in the auxiliary memory unit 7 ^{which serves} as a database, and the mail size upper limit value storing part 10 is formed as a part of each personal information data card 7a ^{in the database} to store the mail size upper limit value. This database can be also used as an address book which is referred ^{to} ^{when} the destination of electric mail [is] specified.
 10
 15 Therefore, the mail size upper limit value switching means 9 is constructed so as to initially search the database using a destination address as a keyword, and to acquire a mail size upper limit value from the mail size upper limit value storing part 10 of the corresponding data card 20 (destination-based information data) 7a.

The [sent] mail dividing means 11 and the mail dividing information adding means 13 will ^{now} be described [below].

In this embodiment, the electric mail data is roughly classified into two parts, that is, a mail header part 15 and a mail main part 16, as shown in FIG. 4. The mail header part 15 includes data, such as ^a sender address, subject name, destination address, size and so on, and the

the message
mail main part 16 contains [a] text of mail, and an attached file. Therein, the attached file also contains data-compression processed file data.

The [sent] mail dividing means 11 changes such electronic mail data to be sent into [the] form [that] only the mail main part 16 is divided into a plurality of divided mail main parts (1) 171 to (n) 17n, and the mail header part 15 (151 to 15n) is attached to each of the divided main parts (1) 171 to (n) 17n, as shown in FIG. 5. Therein, a user can select a dividing method, [among minimizing] number of [the] sub-mail sections, [equalizing] the size of the sub-mail sections or [the] other, which determines the number of [the] divided sub-mail sections of the mail. At that time, in each of the mail header parts 151 to 15n, the size information based on the original mail header part 15 is replaced by a mail size value corresponding to each of the divided mail main parts (1) 171 to (n) 17n, which [are] added to the mail header parts 151 to 15n, respectively. Further, the [sent mail dividing means 11] mail dividing information, which is used for reconstituting the plurality of divided mail data items, divided as described above (to the) single original form of the sent mail data, is stored in the mail dividing information storing means 12.

Next, the mail dividing information adding means 13 converts the mail dividing information stored in the mail dividing information storing means 12 into file format to form mail dividing information files 201 to 20n, and adds

a corresponding one

each of them to [each] of the divided sent mail data items as an attached file of the sent mail. A certain extension capable of identifying the original file is added to the mail dividing information files 201 to 20n in order to identify them ^{the time of} [recognize] as the mail dividing information at receiving the mail.

Each of the mail dividing information files 20 (201, as seen in Fig. 6), fields indicating to 20n) is constructed so as to contain an identification section ^{the total} 23 sections ^{the} code 21, a sub-number 22, a number of divisions 23, [a] total capacity of mail ²⁴, and [a] capacity of divided mail ²⁵. The identification code 21 is a code specific to the original sent mail data before ^{it is} being divided. By attaching the same identification code to all of the plurality of divided sent mail data items, which ^{have been} [are] divided from [the] single [sent] mail data item, the divided sent mail data items are prevented from ^{being mixed up} with [the] other mail data when the received divided mail data items are reconstituted to ^{form} the single mail data ^{as it existed} original [form] before being divided, [of mail data in] ^{at} the receiver side. The sub-number 22 expresses ^{identifies the} order ^{in which} the divided [sent] mail data items ^{are sent} when the divided received mail data items are reconstituted to ^{form} the single [form of the] received mail data. The sub-number 22 is stored when the mail dividing information adding means 13 attaches the mail dividing information files 201 to 20n to the sub-mail sections. Further, when the mail is divided using the above-mentioned means and is actually sent and received, a confirmation message is displayed on the display unit 4.

message indicates

The confirmation [message expresses] that the mail is divisionally being sent, or that the received mail [is] has been divisionally [being] sent.

5 The above-described construction [is] processing in the case where [the] ^{an} information processor having [the] ^{an} electronic mail function [in] the receiver side comprises [the] means for automatically reconstituting the plurality of divided received mail data items ^{of them} to the single original form of the received mail data. ↪

10 Description will be made below [on] processing, in the case where the information processor having [the] ^{an} electronic mail function [in] the receiver side does not comprise [the], means for automatically reconstituting the plurality of divided received mail data items ^{of them} to the single original form of the received mail data.

Presence or absence of the divided mail reconstituting means in the information processor having the electronic mail function [in] the receiver side is judged by providing a divided mail reconstituting means presence/absence information [area] 18 in the database [described] ^{area}, as seen in referring to FIG. 3, and by inputting and pre-storing the information into the area 18. The divided mail reconstituting means presence/absence information is input ^{via} [from] the input unit 6.

25 When electronic mail is sent, the mail dividing information adding means 13 judges, referring to the divided mail reconstituting means presence/absence information [on],

[an information processor having the electronic mail function in a destination] whether or not the information processor [in] ^{at} the destination has [the] divided mail reconstituting means. If the information processor [in] ^{at} the destination does not have [the] divided mail reconstituting means, the mail dividing information adding means 13 adds a divided mail reconstituting program, for executing divided mail reconstituting processing, as an attached file to each of the divided [sent] mail sections together with each of the mail dividing information files 201 to 20n, respectively.

④ Further, the subject name of the divided [sent] mail is [made] ^{changed} [a change] corresponding to the information stored in each of the mail dividing information files 201 to 20n. For example, in a case where the subject name of the [sent] mail before being divided is "Re: holding a meeting", the subject name of the divided [sent] mail is changed to "Re: holding a meeting (M/N)" (where M is sub-number 22, and N is ^{the} number of mail divisions). In addition, at the same time, a sentence notifying the receiver that the mail is divided and sent is attached to the mail main part. (By) ^{the} this ^{way} ^{an} function, when [the] information processor not having [the] means for automatically reconstituting divided mail receives divided [sent] mail, it is possible to avoid confusion caused by successively receiving a plurality of electronic mail ^{sections} [pieces] having the same subject name from a single information processor.

FIG. 7 is a flowchart showing ^{the} electronic mail sending

processing executed by [a preferable] ^{an} electronic mail processing program in order to realize the information processor having [the] ^{an} electronic mail function as described above.

5 Processing Step S701:

A mail sending request is input from the input unit 6.

Processing Step S702:

The database is searched using a destination address as a keyword to acquire a mail size upper limit value from 10 the mail size upper limit value storing part 10 of the corresponding data card (destination-based information data) 7a.

Processing Step S703:

^{size of the message to be sent}
The [sent] mail [size] is compared with the mail size 15 upper limit value, and the processing is branched to the processing step S704 or the processing step S711 depending ^{i.e.} on the comparison result, ^{or} large [and] small.

Processing Step S704:

The [sent] mail data is divided into a plurality of 20 divided [sent] mail sections having a size smaller than the mail size upper limit value.

Processing Step S705:

The mail dividing information necessary [for] receiving ^{upon} the plurality of divided sent mail data, [items obtained by] 25 [dividing the sent mail data and] for reconstituting them to the single original form of the [received] mail data is stored ⁱⁿ in the mail dividing information storing means 12.

Processing Step S706:

The mail dividing information file is attached to each of the divided [sent] mail sections.

Processing Step S707:

- 5 It is judged ^{by} referring to personal information data for [a] destination whether or not the information processor at [in] the destination of the electronic mail has a program for [receiving] the plurality of divided sent mail data [items] obtained by dividing the sent mail data and for
- 10 [reconstituting them] to the single original form of the [received] mail data.

Processing Step S708:

The reconstituting program is attached to the divided [sent] mail as an attached file.

15 Processing Step S709:

^{The subject} _{each of} [Subject] name of the divided [sent] mail sections [are] is changed. The change of subject name is performed, for example, by adding "sub-number/number of divisions" to the ^{each} _{section} subject name of [the sent] mail [before being divided].

20 Processing Step S710:

^{A check is made to determine} [It is checked] whether or not the change of subject name for all the divided [sent] mail sections is completed. If not, the processing ^{is} returned to the processing step S709.

Processing Step S711:

25 Each of the divided [sent] mail data [items] ^{sections} is sent.

FIG. 8 is a block diagram showing a functional means realized by executing an electronic mail processing program

for performing receiving processing of electronic mail in the information processor having [the] electric mail function [in] the receiver side, and shows the functional means, from receiving electronic mail to notifying the user of [receiving] the electronic mail.

As a mail receiving means 26 receives electronic mail, a divided mail processing means 27 judges whether or not the received electronic mail data is divided mail. Therein, if it is judged that the received electronic mail data is divided mail, each of the received electronic mail [pieces] is stored in a divided mail storing unit 28. This process is repeated until all the divided [sent] mail [pieces] are received. When it is judged that all the divided [sent] mail [pieces] have been received, each of the received items of the divided received mail data is stored in a received mail storing unit 29, and [the] notification of [mail receive to] [the user] is displayed on the display unit 4.

The divided mail processing means 27 will be described below, referring to FIG. 9 and FIG. 10. FIG. 9 is a flowchart showing the flow of processing executed by [a] an [preferable] electronic mail processing program in order to realize the divided mail processing means 27. FIG. 10 is a view showing the inner structure of the divided mail storing unit.

25 Processing Step S901:

It is judged whether or not electronic mail data is received.

Processing Step S902:

It is judged whether or not [an attached] file is [added]^a to the received electronic mail, and the processing is branched to the processing step S903 or the processing step S911 depending on the [judging] result^{i.e.} [of] presence [and] or absence of [the] ^{an} attached file.

Processing Step S903:

It is judged^{by} referring to an extension added to a file name of the attached file whether or not the attached file is a mail dividing information file 20, and the processing is branched to the processing step S911 or the processing step S904 depending on [a]) form of the attached file.

The processing steps S902 and S903 are mail dividing information judging [processing]^{steps} for judging whether or not [the] mail dividing information is [added in] ^{appended to} the received mail data, and [composes] a mail dividing judging means.

Processing Step S904:

The mail dividing information file 20 is opened, and the identification code 21 is read.

Processing Step S905:

[It is searched that there exists] the identification code 21 of the read file^{exists a storing area of} in, the divided mail storing unit 28, and it is judged whether or not [receiving]^{except} of the divided mail data^{has been} [is] completed[^{the}], and the processing is branched to processing step S906 or processing step S908 depending on the judged result.

Processing Step S906:

If [the] files having the specified identification code
 21 [are still] not [completed to be] received, a mail storing
 area for a total capacity²⁴ carrying of mail [24 of] this identification
 5 code 21 is secured in the divided mail storing unit 28.

Processing Step S907:

As shown in FIG. 10, the identification code 21, the
 number of mail divisions 23 and the total capacity²⁴ of mail
 [24] are stored in the divided mail storing unit 28. The
 10 numeral "0" is set to the number of divided mail receiving
 times 30.

Processing Step S908:

The mail main part of the divided [received] mail,
 which has been received, is stored in the position [shown] by
 15 specified in the header of the received mail section
 the sub-number 22.

Processing Step S909:

The number of divided mail receiving times 30 is
 incremented by 1.

Processing Step S910:

20 By comparing the number of mail divisions 23 with the
 number of divided mail receiving times 30, it is judged
 whether or not all^{of} the divided [sent] mail [divisions are]
 received, and the processing is branched to the processing
 step S901 or the processing step S911 depending on the
 25 judged result.

The processing step S910 is divided mail receiving
 judging [processing], and [composes] the divided mail receiving

judging means.

Processing Step S911:

The data below the mail header part 15 in the divided mail storing unit 28 is transferred to the received mail
5 storing unit 29.

The processing steps S907 to S909 and S911 are mail reconstituting processing ^{steps} for reconstituting the plurality ^{sections} of divided (received) mail data, [items], which ^{have been} received, to obtain the original single form of mail data, and [compose] a mail
10 reconstituting means.

Processing Step S912:

^{The receipt} [Receiving] of mail is ^{indicated} [notified] using the display unit
4.

Since the present invention is constructed as
15 described above, it is possible to realize an information processor having an electronic mail function, which can easily send and receive electronic mail, [attached with] a large-sized file, ^{to which} ^{is attached} and to realize a recording medium for recording an electronic mail processing program for the
20 information processor.

REWRITTEN MARKED UP COPY

ABSTRACT OF THE DISCLOSURE

Sending and receiving of electronic mail ~~attached~~ having an attachment with in the form of a large-sized file can be made easy. When ~~a~~ the size of mail to be sent exceeds an upper limit value of mail size, the mail is sent by automatically dividing the ~~sent~~ mail into a plurality of sub-mail sections, and the plurality of received ~~items~~ sections of divided mail are automatically reconstituted to obtain a single original form of the mail data.

FIG. 2

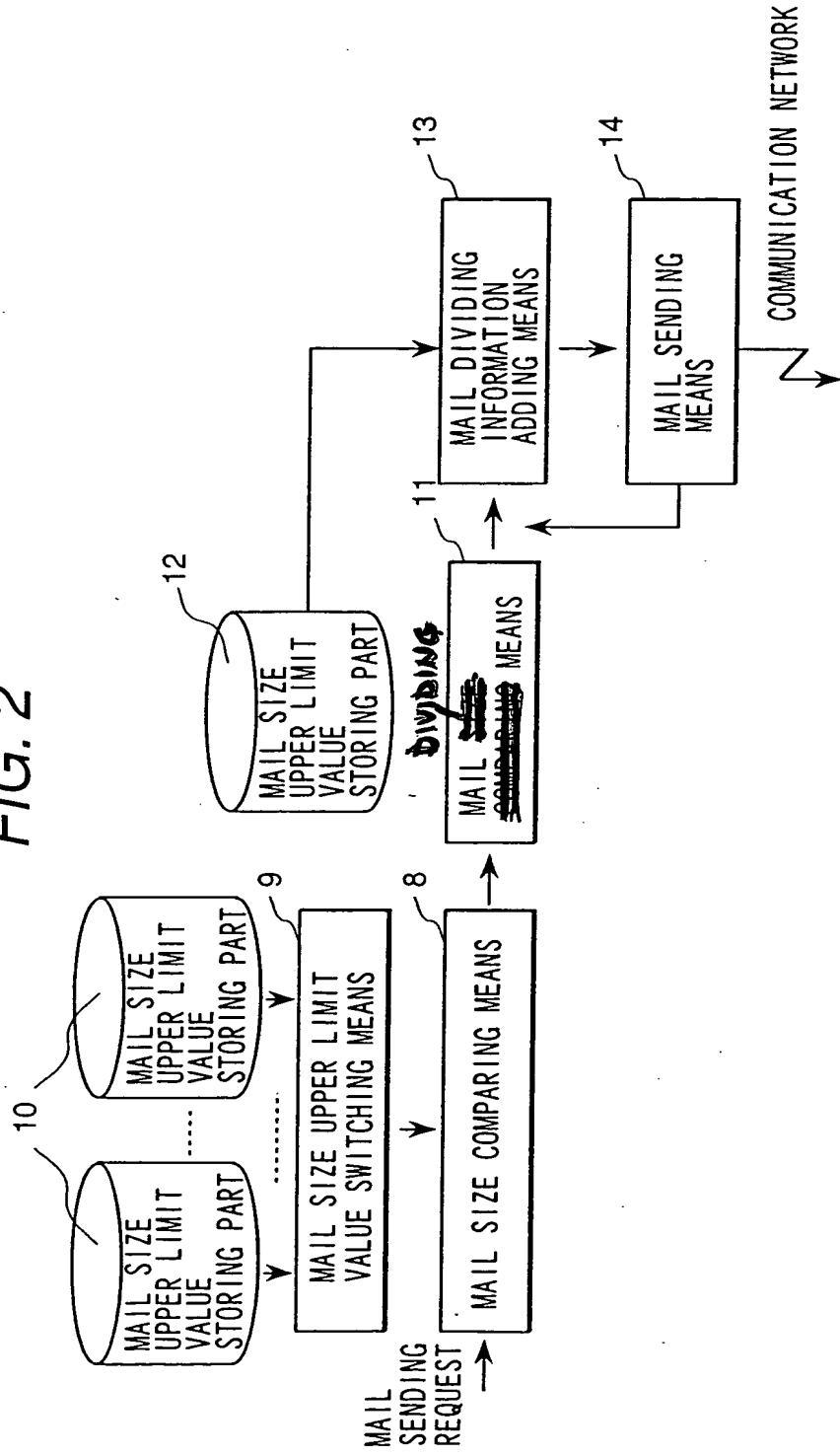


FIG. 7

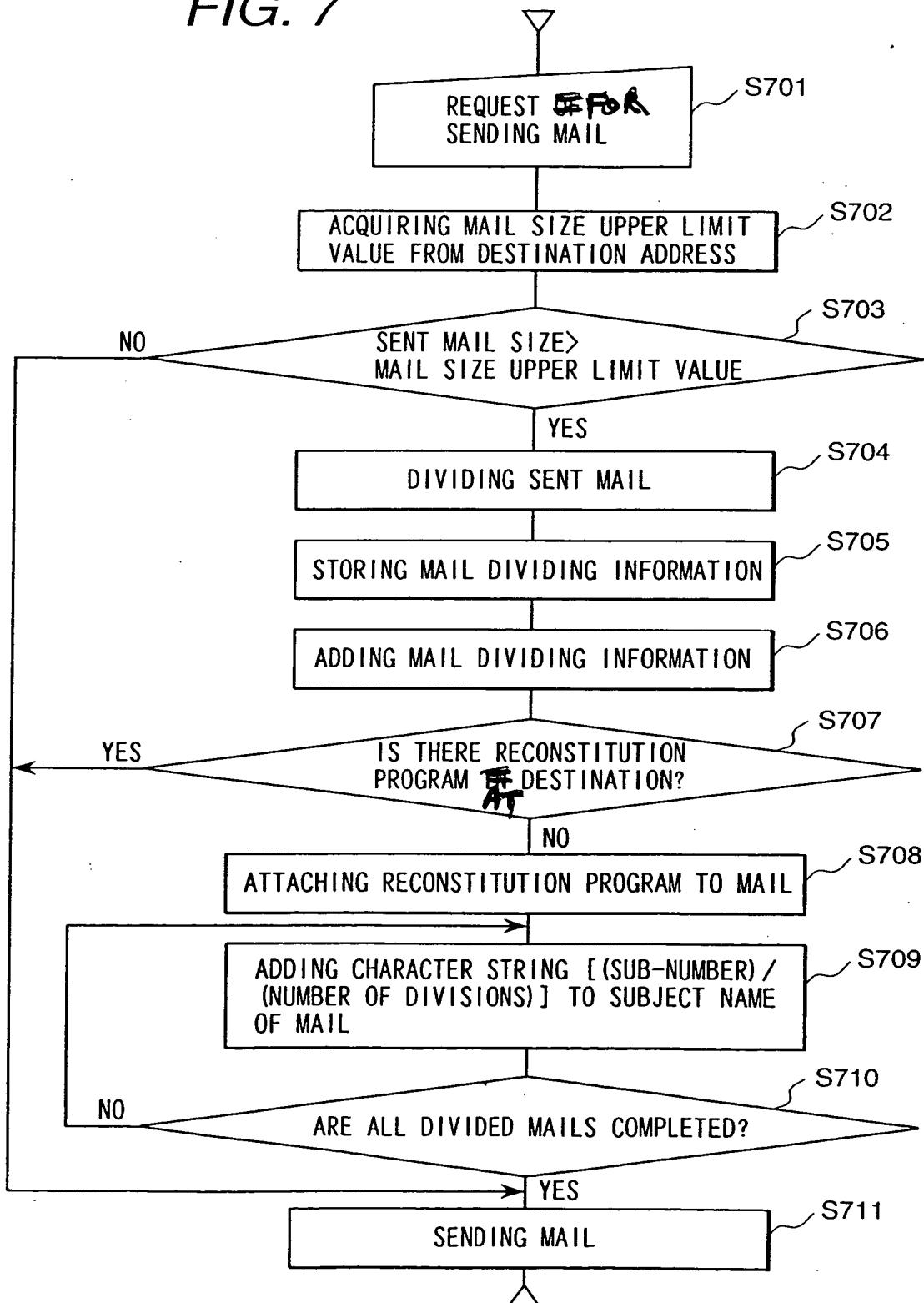


FIG. 8

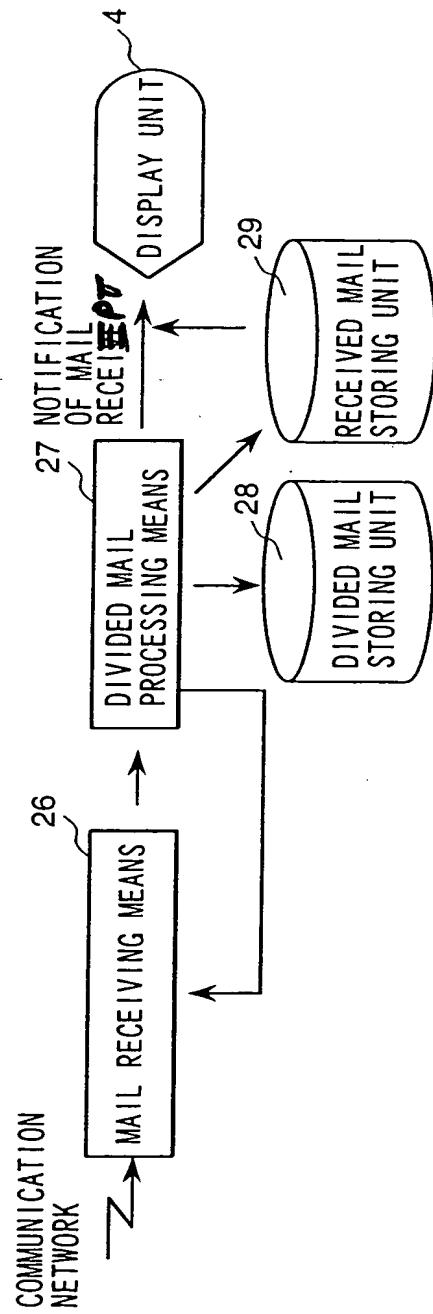


FIG. 9

